

REMARKS

This Amendment is submitted in response to the Office Action mailed June 30, 2003 and the Final Rejection mailed April 16, 2003. In the Office Action, the Examiner indicated that Claims 19-34, 36 are finally rejected and Claim 35 is allowed. The Examiner indicated that applicant's Amendment after Final of June 16, 2003 will be entered.

With this Amendment, Claims 29, 32 are amended to correct typographical errors, and Claims 19-34, 36 are presented, along with previously allowed Claim 35. This Amendment is believed to put the application in better condition for appeal, and a Notice of Appeal is filed herewith.

Rejection under 35 USC 102

The Examiner rejected Claims 19, 20, 28, 31-34 under 35 USC 102(e) as anticipated by Baba ('162) and suggests that it is known that controllers control in real time.

Applicant agrees that it is known, as a general matter, that automatic controllers have control transfer functions that control plants in real time. Known controllers generate outputs that changes responsive to real time conditions of the plant output.

However, the invention, as presently recited in Claims 19, 20, 28, 31-34 includes a limitation to adaptively generating an output. The claimed apparatus, of course, generates an output that changes responsive to real time conditions of the plant output, but that is beside the point. The point is that, in the presently amended Claims, the apparatus adaptively generates such an output. The claimed apparatus controls adaptively, rather than being limited by fixed control transfer functions.

The term "adaptive," as used with respect to control systems is well defined. As pointed out in the Instrument Society of America Dictionary of Measurement and Control (Third Edition,

1995, Instrument Society of America, ISBN 1-55617-528-0), "adaptive control" is defined as:

Control, adaptive. Control in which automatic means are used to change the type or influence (or both) of control parameters in such a way as to improve the performance of the control system.

Baba ('162) does not teach or suggest adaptively generating an output as presently claimed in Claims 19, 20, 28, 31-34. Baba does not teach or suggest any "...automatic means used to change the type or influence of control parameters to improve the performance of a control system..." as described in the above-cited definition of adaptive control. Baba instead teaches control using fixed control functions, as evidenced by the fact that, in Baba, there are no additional inputs on controllers for receiving adaptation inputs, and there is no mention of adaptive control. As recited in the present Claims 19, 20, 28, 31-34, the present invention is believed to be novel and patentable over Baba ('162). Applicant thus believes that the Examiner's rejection of Claims 19, 20, 28, 31-34 under 35 USC 102 as not novel over Baba ('162) was improper and requests that it be withdrawn.

If the Examiner believes that "...adaptively generating an output responsive to a sensed position signal, a desired position signal and at least one of a torque and an inertia..." is taught or suggested by Baba, the Applicant request that the Examiner specifically point out such teaching in Baba.

#### Rejection under 35 USC 103

The Examiner rejected Claims 21-24, 26, 27, 29, 30 and 36 under 35 USC 103 over Baba in view of Clare et al.('286).

As discussed above, Baba does not teach or suggest

adaptively controlling an output responsive to a sensed position signal, a desired position signal and at least one of a torque and an inertia.

Clare et al. ('286) also does not teach or suggest adaptively controlling an output responsive to a sensed position signal, a desired position signal and at least one of a torque and an inertia. Clare et al. also does not teach or suggest any "...automatic means used to change the type or influence of control parameters to improve the performance of a control system..." as described in the above-cited definition of adaptive control. Clare et al. instead teaches control using fixed control functions, as evidenced by the fact that, in Clare et al., there are no additional inputs on controllers for receiving adaptation inputs, and there is no mention of adaptive control.

If the Examiner believes that "...adaptively generating an output responsive to a sensed position signal, a desired position signal and at least one of a torque and an inertia..." is taught or suggested by Clare et al., the Applicant request that the Examiner point out such teaching in Clare et al.

Neither Baba nor Clare et al., taken singly or in combination, teach or suggest an apparatus "...adaptively controlling an output responsive to a sensed position signal, a desired position signal and at least one of a torque and an inertia..." as presently claimed in Claims 21-24, 26, 27, 29, 30 and 36. The Claims 21-24, 26, 27, 29, 30 and 36 are thus believed to be not obvious and patentable over Baba ('162) in view of Clare et al. ('286). The Examiner's rejection of Claims 21-24, 26, 27, 29, 30 and 36 under 35 USC 103 is therefore believed to be improper and should be withdrawn.

#### Allowable Subject Matter

The Examiner indicated Claim 35 to be allowed.

The application appears to be in condition for appeal. The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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